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THE LIMA TARGET AND THE SOUTH-SOUTH CO-OPERATION: A STATISTICAL REVIEW *

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The Lima Target and the South-South Co-operation: A Statistical Review

The Second General Conference of UNIDO held in Lima, Peru in 1975 culminated in a Declaration and a Plan of Action which called for increasing industrial production in the developing countries to the maximum possible extent and "as far as possible to at least 25 percent of world industrial production by the year 2000".[1/]

The 25 percent share referred to in the above Declaration has become widely known as the Lima target. The purpose of this note is to assess the likelihood of achieving this target by the year 2000 based on the past trend, and to underscore the importance of South-South co-operation as a critical factor for the realization of the target.

In the context of the present world industrial order, the realizability of the Lima target appears to be limited. Table 1 provides compelling evidence to this fact. Developing countries (DGs) share of world MVA increased slowly from 8.2 per cent in 1960 to 10.9 per cent in 1980. Trend least squares were fitted to the share data for the periods of 1961-1980 and 1970-1980 (Table 1) and the following results were obtained:

(1) $$MVAS = \underset{(44.68)}{7.493} + \underset{(10.63)}{0.1488}\, t$$

$$R^2 = 0.86, \text{ D.W.} = 0.259, \text{ 1961-1980}$$

(2) $$MVAS = \underset{(21.61)}{6.3667} + \underset{(11.71)}{0.2267}\, t$$

$$R^2 = .95, \text{ D.W.} = 1.34, \text{ 1970-1980}$$

where MVAS is DGs' share in world MVA, "t" is time, and the numbers in parentheses are t-values.

1/ UNIDO, Lima Declaration and Plan of Action on Industrial Development and Co-operation, ID/CONF.3/31, Chapter IV.

Table 1 Share in World Manufacturing Value-Added, by Economic Grouping, 1960 - 1980

(per cent)

	Developing Countries	Centrally Planned Economies	Developed Market Economies
1960	8.2	14.0	77.8
1961	8.4	14.7	76.9
1962	8.2	15.1	76.6
1963	8.1	15.4	76.5
1964	8.3	15.0	76.7
1965	8.2	15.6	76.2
1966	8.2	15.8	76.0
1967	8.2	16.9	74.9
1968	8.3	17.2	74.4
1969	8.4	17.8	73.8
1970	8.8	18.6	72.6
1971	9.1	19.4	71.4
1972	9.3	19.6	71.1
1973	9.4	19.6	71.0
1974	9.8	21.2	69.0
1975	10.3	23.0	66.7
1976	10.3	22.8	66.9
1977	10.4	23.0	66.6
1978	10.5	23.5	66.0
1979	10.7	23.4	65.9
1980	10.9	23.8	65.3

Source: UNIDO data base; information supplied by the United Nations Office of Development Research and Policy Analysis and the United Nations Statistical Office; United Nations, Monthly Bulletin of Statistics, November 1980; and estimates by the UNIDO secretariat.

The trend line fitted to the more recent data of 1970-1980 shows a slightly faster average annual growth in the DGs' share of world MVA (.23) than over a longer period of 1961-1980 (0.15). But the projected DGs' share in the year 2000 obtained from the two regression equations are strikingly similar: 13.45 per cent using Equation (1) and 13.39 per cent using Equation (2). It is apparent, therefore, that if present trends continue, the attainment of the Lima target is out of question and the DGs' share will not reach even the 15 per cent level.

The use of simple algebra enables us to see that the MVA of DGs must grow faster than that of the developed countries (DDs) by a constant growth rate differential to reach the Lima target. Of course, given the Lima share of 25 per cent by the terminal year 2000, this growth rate differential depends on the initial year chosen for the calculation. If we take the 1980 share of about 11 per cent as an initial condition, the DGs' MVA growth must surpass that of the DDs by an average annual growth rate differential of 4.96 per cent in the period 1980-2000 to achieve the Lima target. Let us express algebraically this required growth rate differential:

$$(3) \qquad r_1^* = 4.96 + r_2, \quad 1980\text{-}2000$$

where r_1^* is the Lima MVA growth rate of DGs and r_2 the MVA growth rate of DDs.

While Equation (3) represents a target growth requirement of DGs, a "stylized" general relatinship between the DGs and the DDs in terms of their respective MVA growth rates may deviate considerably from this Lima target requirement. Let such a general relationship be represented by:

$$(4) \qquad r_1 = a + br_2$$

where r_1 and r_2 are actual MVA growth rates of DGs and DDs, and a and b are structural coefficients which can be estimated statistically, using time-series data. Then we can define the Lima growth rate gap by subtracting Equation (4) from Equation (3), i.e.:

$$(5) \qquad r_1^* - r_1 = (4.96 - a) + (1 - b)\, r_2$$

Equation (5) partitions the Lima gap into two components: one attributable to the endogenous growth factor within DGs and the other attributable to the

the weakness of the DGs - DDs linkage effect where the coefficient "b" measures the extent of such a linkage. Of course, the gap depends on the values of "a", "b" and "r_2". Other things being equal, the smaller the linkage is (indicated by lower values for b and usually b<1), the greater is the urgency of promoting indigenous growth within the South through, for example, higher South-South trade and greater industrial co-operation beyond the actual level indicated by "a".

An identity relation based on the Lima Equation (3) may cast more interesting insight on the sources of contribution to the attainment of the target, namely,

$$(6) \qquad r_1^* = \left\{4.96 + (1-b)\ r_2\right\} + br_2$$

The first terms in the bracket on the right hand side of Equation (6) represents that part of the Lima target growth rate which has to be met by the endogenous growth factor within the South and the second term br_2 corresponds to the contribution of the North-South dependence factor to the target growth rate. Dividing both sides of the above equation by r_1^* will yield the same relationship in terms of contribution share of each element, i.e.:

$$(7) \qquad 1 = m_1 + m_2$$

where $m_1 = \left\{4.96 + (1-b)\ r_2\right\} / r_1^*$ is the percentage share of the endogenous growth factor and $m_2 = (br_2)/ r_1^*$ that of the DDs' growth.

It must be noted that the stylized relation between the North and the South expressed in Equation (4), however, is only symptomatic of a more complicated economic interdependence. Given the limited industrial maturity of most of the developing countries, high industrial growth in these countries would entail and require a large and growing demand for capital, intermediate and technical products and skills, which at present appear to be forthcoming mainly from the developed countries. The increase in demand for the exports of developed countries is likely to raise the growth rate of their industrial output, a fact which may in turn lead to a reduction in the World industrial output share of developing countries.[2/]

2/ Krueger, A.O.: "LDC Manufacturing Production and Implications for OECD Comparative Advantage", in Western Economies in Transition: Structural Change and Adjustment Policies in Industrial Countries, I. Levenson and J.W. Wheeler (eds.), Boulder, Colorado, Westview Press, 1979.

On the other hand, the expansion of industrial output in developing countries may be contingent on a strong import demand for these products in the developed countries, which may in turn depend on favourable economic growth in these countries.

Data on MVA growth trends by broad economic groupings during the period 1960-1980 are presented in Table 2. Two regression relationships were estimated using the data in Table 2 to highlight the dependence of DGs' MVA growth rate on that of the DDs. The first regression was estimated for the period 1961-1980 and the second for the period 1970-1980. The results are presented below in (8) and (9).

(8) $$r_1 = 5.189 + 0.402\ r_2$$
$$(9.27)\quad (4.175)$$
$$R^2 = .492,\ D.W. = 1.124,\quad 1961\text{-}1980$$

(9) $$r_1 = 5.3581 + 0.419\ r_2$$
$$(10.61)\quad (4.62)$$
$$R^2 = .753,\ D.W. = 0.6915,\quad 1970\text{-}1980$$

It is worth noting that the regression parameters of the two estimated equations are remarkably similar, perhaps suggesting the robustness of the estimates. Not surprisingly, the estimated values of the "b" coefficients are far smaller than one -- a DDs' MVA growth change of one per cent induces less than a half a per cent change in DGs' growth. Thus, if the DDs' historical MVA growth rate of 4 per cent is assumed to prevail, DGs' corresponding average growth rate would be 6.797 per cent using Equation (8). But the required growth rate is 8.96 per cent using Equation (3) and this gives a Lima growth rate shortfall of 2.16 per cent. Furthermore, based on the historical values of the parameters estimated for the period 1960-1980, the endogenous growth factor must generate an average annual growth rate of 7.352 per cent (4.96 + (1. - 0.402)X4, Equation 6) and the remainder of 1.608 per cent (0.402 x 4) comes from the North's growth to realize the Lima growth rate of 8.96 per cent. This would amount to the contribution shares of 82 per cent for the endogenous growth factor and 18 per cent for the North-South linkage effect.

Table 2. MVA Growth Rates by Economic Groupings, 1960-1980

(in billions of 1975 US dollars)

Region / Year	Developed Market Economies		Centrally Planned Developed Economies 1/		Developing Market Economies	
	MVA	Growth Rate (per cent)	MVA	Growth Rate (Per cent)	MVA	Growth Rate (Per cent)
1960	560				58.61	
1961	583	4.107			63.13	7.718
1962	626	7.376			66.57	5.444
1963	667	6.550	146		70.82	6.386
1964	724	8.546	157	7.51	77.85	9.924
1965	772	6.630	170	8.42	82.80	6.367
1966	823	6.606	183	8.13	87.58	5.769
1967	841	2.187	202	9.94	91.14	4.062
1968	903	7.372	220	8.86	100.06	9.795
1969	968	7.198	237	7.94	109,86	9.796
1970	985	1.756	259	9.30	119.60	8.858
1971	1013	2.843	281	8.56	129.41	8.204
1972	1084	7.009	302	7.34	140.87	8.857
1973	1182	9.041	328	8.79	155.06	10.072
1974	1166	-1.354	359	9.26	163.65	5.542
1975	1116	-4.288	391	8.87	168.33	2.857
1976	1213	8.691	417	6.84	181.54	7.850
1977	1269	4.617	447	7.12	191.87	5.690
1978	1306	2.916	473	5.78	204.31	6.485
1979	1356	3.828	493	4.33	217.31	6.629
1980	1317	-2.876	515	4.33	224.73	3.154
1960-1970 Average		5.83		8.58 (1963-1970)		7.41
1970-1980 Average		3.04		7.12		6.53
1960-1980 Average		4.43		7.72 (1963-1980)		6.97

Source: UN, Handbook of Development Statistics, Major Economic Indicators Showing Historical Development Trends, New York, 1982. and UNIDO Data Base.

1/ Refers to Eastern Europe. Since National Accounts data for the years 1960, 1961 and 1962 are not comparable with value added data, this Table bypasses MVA data for these years to parry disparity.

Given this historical trend, it appears that to achieve the Lima target primarily relying on internally generated growth processes within the South is a formidable challenge. It seems essential, therefore, that a two-pronged assault on closing the Lima gap be launched. On the one hand, every avenue of the North-South co-operation to increase the North-South linkage effect (i.e. "b" coefficient) should be exhausted. This would inter alia include:

a) whittling down protectionist barriers and opening up DDs' markets for the manufactured exports of DGs;

b) enlarging financial flows to DGs, and particularly redirecting far greater proportions of increased external capital flows to LDCs.

c) increasing joint ventures and other forms of direct investments in DGs;

d) adopting more liberal policies of technology transfer and accelerating its flow to DGs;

e) some industrial activities in the developed countries must be abandoned for the benefit of developing countries, that is - to pursue policies of North-South industrial redeployment and to implement required positive industrial adjustment programmes in the North. This holds particularly true for the traditional "smokestack industries", in which the North's comparative advantage has been rapidly eroding.

On the other hand, conscious efforts must be made to generate and sustain endogenous growth processes within the South, in part through increased South-South trade and greater industrial co-operation. A short list of priorities could include:

a) industrialization in the developing countries must cover all the range of activities, including capital goods production and improving technology, which would increase the "industrial maturity" of the South discussed earlier, thereby lessening the South's dependence on the North for capital and intermediate goods, and technology;

b) trade in manufactured products among the developing countries must expand to levels capable of exploiting the scale economies of industrial production in these countries.

c) trade and aid should be co-ordinated to facilitate the adjustment process embedded in the Lima target;

d) as Professor Hans Singer [3/] correctly pointed out, developing countries need to improve x-efficiency and planning as an essential part of the changes which must happen before the Lima target can be reached.

Concluding Remarks

The Lima Declaration and Plan of Action envisages a restructuring of the present world industrial order to redress the existing imbalances in production and consumption between the developed and the developing countries. The target of 25 per cent share of total world industrial production for developing countries was considered a minimum requirement to translate this vision into reality. What emerges from this study is the realization that although the target is dependent on the rate of growth of industrial output in developed countries, the so-called "locomotive effect" of the North may not be sufficient to enable the South to reach the target. In fact, recent protracted global recession, a rising tide of protectionism in the North and shrinking export markets for developing countries dim any hope of realizing the Lima target anchored on the North-South linkage. It seems clear that the realizability of the Lima target increasingly depends on the South's ability to accelerate its "industrial maturity" by utilizing all opportunities for South-South trade and industrial co-operation.

3/ H.W. Singer: "Industrialization: Where do we stand? Where are we going?, forthcoming in Industry and Development, No.12.